CLAIM SET AS AMENDED

1-22. (Cancelled)

23. (Currently Amended) A processing apparatus for fluid comprising:

a feed for fluid to be processed;

a fluid pressure applying mechanism for applying predetermined pressure to fluid to be processed;

at least two processing faces comprising a first processing face and a second processing face, at least one of which is movable towards or away from the other, the first and second processing faces being connected with a tight-closed fluid passage through which the fluid flows, wherein the second processing face is formed on a lower surface of a second processing portion, the second processing portion being an annular element;

a rotary drive mechanism for relatively rotating the first and second processing faces, thereby processing the fluid between both processing faces, the fluid being allowed to travel in use between the first and second processing faces, which relatively rotate, a fluid film with predetermined thickness being formed, whereby said fluid is processed to a desired condition of dispersion, emulsification, mixing, grinding, attrition, or atomization;

a face contact pressure applying mechanism for applying contact pressure between the two processing faces urging them into contact; and

a pressure receiving surface on which said fluid under predetermined pressure acts in use to provide a separation force for separating the processing faces,

wherein the fluid pressure applying mechanism, the face contact pressure applying mechanism and the pressure receiving surface are configured so that, in use, while the fluid is processed, the separation force between the processing surfaces is in balance with the contact pressure, the balance maintaining a predetermined interval between the processing faces in a microscale width.

24. (Previously Presented) A processing apparatus for fluid as defined in claim 23, further comprising at least two processing portions comprising a first processing portion provided in a tight-closed passage through which the fluid flows and a second processing portion which is movable towards or away from the first processing portion,

wherein the first processing face and second processing face are disposed opposite to each other on respective said processing portions, the rotary drive mechanism is for relatively rotating the first and second processing portions, thereby processing the fluid between both processing faces, at least the second processing portion of the first and second processing portions is provided with the pressure receiving face, and at least one part of the pressure receiving face is constituted by the second processing face.

25. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a buffer mechanism for adjusting vibration and alignment of at least one of the first and second processing faces.

26. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a displacement adjusting mechanism for adjusting displacement of the shaft due to wear-out of one or both of the first and second processing faces to maintain the thickness of the fluid film formed therebetween.

27. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a pressure adjusting mechanism for adjusting pressure applied to the fluid to be processed.

28. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a separation control portion for defining the maximum interval between said first and second processing faces to prevent further separation thereof.

29. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising an access control portion for defining the minimum interval between the first and second processing faces to prevent further access thereof.

30. (Previously Presented) A processing apparatus for fluid as defined in claim 24, wherein both of the first and second processing faces are designed to rotate mutually in opposite directions.

31. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a temperature control jacket for controlling the temperature of one or both of the first and second processing faces.

32. (Previously Presented) A processing apparatus for fluid as defined in claim 24, wherein at least a part of one or both of the first and second processing faces is subjected to planishing to form a mirror finish.

33. (Previously Presented) A processing apparatus for fluid as defined in claim 23, wherein one or both of the first and second processing faces is provided with recesses.

34. (Previously Presented) A processing apparatus for fluid as defined in claim 24, further comprising a different introduction passage independent of said fluid passage,

wherein at least one of the first and second processing faces has an opening which admits to said introduction passage so as to enable introduction of a substance or another fluid to be processed from the introduction passage into the fluid being processed.

35. (Currently Amended) A processing apparatus for fluid, comprising:

a feed for fluid to be processed;

at least two processing members comprising a first processing face and a second processing face, which are placed opposite to each other and at least one of which is movable towards or away from the other, the first and second processing faces being connected with a

tight-closed fluid passage through which the fluid flows; wherein the at least two processing members are disposed in an annular receiving portions of corresponding holders;

a rotary drive mechanism for relatively rotating at least one of the first and second processing members with respect to the other, wherein fluid is fed from the center portion of said rotary motion to the interval between said both processing members and then discharged outside thereof, and a fluid film with predetermined thickness is formed whereby said fluid is processed by dispersion, emulsification, mixing, grinding, attrition, or atomization;

a face contact applying mechanism for applying contact pressure between the two processing faces by biasing at least one of the processing members into contact with the other;

a dynamic pressure generating mechanism, said dynamic pressure generating mechanism being provided by both processing members interacting with the fluid traveling between them;

a pressure receiving surface, the dynamic pressure acting on said pressure receiving surface in use to provide a separation force for separating the processing members,

wherein the dynamic pressure generating mechanism, the face contact pressure applying mechanism and the pressure receiving surface are configured so that, in use, the separation force between the processing members is in balance with the contact pressure, the balance maintaining a predetermined interval between the processing faces in a microscale width.

36. (Previously Presented) A processing apparatus for fluid as defined in claim 35, wherein said processing members include planished flat portions, one of the processing members having grooves formed on the flat portion, each of said grooves stretching outward from the center of the processing member, and having a flow limiting portion for limiting the flow

traveling outward from the center of the processing member after it has passed through said groove.

37. (Previously Presented) A processing apparatus for fluid as defined in claim 36, wherein said flow limiting portion is formed to generally decrease the sectional area of the groove from the inner part thereof toward the periphery of the processing member.

38. (Previously Presented) A processing apparatus for fluid as defined in claim 35, wherein at least one of said first and second processing members is provided with a floating mechanism, which enables both processing members to access to or separate from each other, while an eccentric behavior of at least one of both processing members arising from the rotary motion may be absorbed by the other.

39. (Previously Presented) A processing apparatus for fluid as defined above in claim 35, wherein a floating mechanism is arranged so as to enable said first and second processing members to move towards or away from each other and to change the inclinations of the rotary shafts of both processing members.

40. (Withdrawn) A deaerator with atomizing apparatus for removing bubbles from the atomized substance, wherein the dearator employs the processing apparatus for fluid as defined in claim 23 as an atomizing apparatus.

41. (Withdrawn) A deaerator with atomizing apparatus for removing bubbles from the atomized substance, wherein the dearator employs the processing apparatus for fluid as defined in claim 35 as an atomizing apparatus.

42. (Withdrawn) A deaerator with atomizing apparatus as defined in claim 40, further comprising a vacuum pump for extracting the substance which has passed between the first and second processing members.

43. (Withdrawn) A deaerator with atomizing apparatus as defined in claim 41, further comprising a vacuum pump for extracting the substance which has passed between the first and second processing members.

44. (Cancelled)

45. (New) A processing apparatus for fluid as defined in claim 23, wherein the second processing portion is disposed in an annular receiving portion of a holder

46. (New) A processing apparatus for fluid as defined in claim 35, wherein the at least two processing members are annular elements having common axes, and one of the processing moving along the common axes so that the first processing face moves toward or away from the second processing face.

47. (New) A processing apparatus for fluid, comprising:

a feed for fluid to be processed;

at least two processing members comprising a first processing face and a second processing face, which are placed opposite to each other and at least one of which is movable towards or away from the other, the first and second processing faces being connected with a tight-closed fluid passage through which the fluid flows;

a rotary drive mechanism for relatively rotating at least one of the first and second processing members with respect to the other, wherein fluid is fed from the center portion of said rotary motion to the interval between said both processing members and then discharged outside thereof, and a fluid film with predetermined thickness is formed whereby said fluid is processed by dispersion, emulsification, mixing, grinding, attrition, or atomization;

a face contact applying mechanism for applying contact pressure between the two processing faces by biasing at least one of the processing members into contact with the other;

a dynamic pressure generating mechanism, said dynamic pressure generating mechanism being provided by both processing members interacting with the fluid traveling between them;

a pressure receiving surface, the dynamic pressure acting on said pressure receiving surface in use to provide a separation force for separating the processing members,

wherein the dynamic pressure generating mechanism, the face contact pressure applying mechanism and the pressure receiving surface are configured so that, in use, the separation force between the processing members is in balance with the contact pressure, the balance maintaining a predetermined interval between the processing faces in a microscale width, and

wherein said processing members include planished flat portions, one of the processing members having grooves formed on the flat portion, each of said grooves stretching outward from the center of the processing member, and having a flow limiting portion for limiting the flow traveling outward from the center of the processing member after it has passed through said groove.